

1 REMARKS

2 Status of the Claims

3 Claims 1-8 are pending in the present application, new Claim 8 having been added in the  
4 present amendment. No further amendments have been made.

5 Rejection of Claim 1 as being Anticipated by Karlson

6 The Examiner has rejected Claim 1 under 35 U.S.C. § 102(e) as being anticipated by Karlson  
7 (U.S. Patent 5,991,048). The Examiner asserts that Karlson discloses introducing an object into a  
8 fluid, introducing the fluid containing the object into a flow imaging system, and collecting spectral  
9 SPR data corresponding to the object, the spectral SPR data including at least one of an angular  
10 spectrum corresponding to the object and entire wavelength spectrum corresponding to the object.  
11 Applicants respectfully disagree for the following reasons.

12 The preamble of Claim 1 specifically defines the object as having "*a metal film capable of*  
13 *exhibiting SPR.*" The preamble further recites that the instant method is directed to collecting SPR  
14 spectra of *an object in flow*. MPEP 2111.02 (Effect of Preamble) makes it clear that "*any*  
15 *terminology in the preamble that limits the structure of the claimed invention must be treated as a*  
16 *claim limitation.*" The preamble of Claim 1 clearly limits the object, such that the only objects that  
17 can be used to implement the method recited in Claim 1 must include *a metal film capable of*  
18 *exhibiting SPR*, and that collection of the SPR data must be performed *while the object is in flow* (i.e.,  
19 in motion).

20 Karlson specifically discloses that the metal film capable of exhibiting SPR is part of a  
21 sensing area incorporated into a planar light pipe. Referring to FIGURE 14A of Karlson, a planar  
22 light pipe includes two sensing areas, a sensing area 81 including a reactive layer that interacts with  
23 species in solution causing a shift in SPR response, and a reference sensor channel 82, which is  
24 inactive to such reactions. SPR exhibited in reference sensor channel 82 is a function of both the  
25 effective refractive index of the sample, and non-specific absorption events (see column 20, lines 31-  
26 40). Karlson clearly teaches that the sensing area includes a metal layer (see column 17 lines 27  
27 through 33).

28 Karlson's technique is based on introducing a sample (such as a glycerol solution) into a flow  
29 cell, with the sensing areas being enclosed by the flow cell, so that a sample introduced into the flow  
30

1 cell is placed in fluid communication with the sensing areas. The sensors then collect spectral SPR  
2 data from the sample.

3 While there are similarities between Karlson's technique and the method recited in Claim 1,  
4 significantly Karlson's sensing areas (i.e., the metal films exhibiting SPR) are fixed in position  
5 (Karlson's metal films are not in flow). The sensing areas are part of the analytical instrument. In  
6 contrast, in applicants' invention, the sensing areas are actually part of the objects that are introduced  
7 into the flow imaging system. Significantly, Karlson's technique introduces a fluid such as glycerol  
8 into a flow cell, and collects SPR spectral data using a metal film that is part of a planar light pipe,  
9 and not part of the glycerol (i.e., not part of the object, as recited by applicants' claim) that is  
10 introduced into the flow cell. In applicants' technique, an object including or having a metal film  
11 capable of exhibiting SPR is introduced into a fluid, the combination of fluid and object is introduced  
12 into a flow imaging instrument, and SPR spectral data are collected. The technique disclosed by the  
13 prior art and the invention claimed by applicants simply are not equivalent.

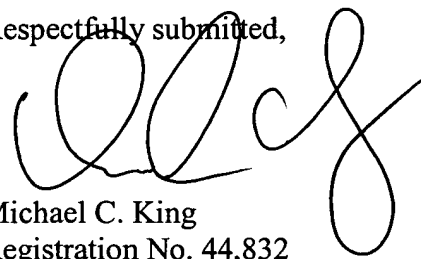
14 Furthermore, there is no evidence that one of ordinary skill in the art would have been led to  
15 modify Karlson's technique such that the metal film capable of exhibiting SPR is incorporated into  
16 objects that are introduced into the flow cell of a flow imaging instrument, along with a fluid, as  
17 opposed to being implemented as sensing areas on a planar light pipe. Accordingly, the rejection of  
18 Claim 1 as being anticipated by Karlson should be withdrawn

19 Patentability of Newly Added Claim 8

20 Newly added Claim 8 is based on Claim 1, and further explicitly recites the step of providing  
21 an object comprising a metal film capable of exhibiting SPR. Karlson does disclose providing  
22 sensing areas including a metal film capable of exhibiting SPR. However, Karlson's sensing areas  
23 cannot be equivalent to applicants' objects, because Claim 8 also recites "*collecting spectral SPR data*  
24 *corresponding to the object as the object is carried in the fluid by the flow.*" Clearly, Karlson's  
25 sensing areas are formed into a planar light pipe, and although the sensing areas are in fluid  
26 communication with the flow cell of a flow imaging instrument, Karlson sensing areas are not carried  
27 through the flow imaging system by the fluid in a flow. The cited art provides no teaching or other  
28 basis for concluding that it would have been obvious to one of ordinary skill in the art to modify  
29 Karlson's structure and apparatus to achieve an equivalent of applicants' claimed invention. Claim 8  
30 therefore recites a patentable method.

1 In consideration of the preceding remarks set forth above, it is apparent that all claims in the  
2 present invention define a novel and non-obvious invention. Therefore, the Examiner is requested to  
3 pass this case to issue at an early date. In the event that any further questions remain, the Examiner is  
4 requested to telephone applicants' attorney at the number listed below.

5  
6 Respectfully submitted,

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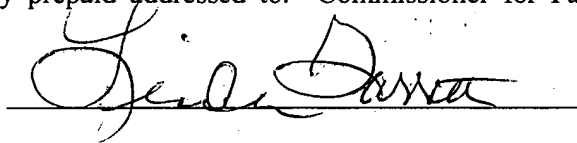
10 Michael C. King  
Registration No. 44,832

11 MCK/RMA:lrg

12 MAILING CERTIFICATE

13 I hereby certify that this correspondence is being deposited with the U.S. Postal Service in a sealed  
14 envelope as first class mail with postage thereon fully prepaid addressed to: Commissioner for Patents,  
Alexandria, VA 22313-1450, on June 28, 2005.

15 Date: June 28, 2005

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